



RECEIVED

MAY 18 2009

Waste Industry Experts

Joyce Engineering, Inc  
2211 W. Meadowview Road  
Suite 101  
Greensboro, NC 27407

SOLID WASTE SECTION  
ASHEVILLE REGIONAL OFFICE

tel: 336/323-0092

fax: 336/323-0093

www.JoyceEngineering.com

May 15, 2009

Mr. Allen Gaither  
NCDENR Solid Waste Section  
Western Regional Office  
2090 U.S. 70 Highway  
Swannanoa, NC 28778

Fac/Perm/Co ID #	Date	Doc ID#
97-04	5/21/09	6631

RE: Wilkes County Department of Solid Waste  
Wilkes County MSW Landfill  
Alternate Cover Material  
JEI Project No. 356.00, Task 36

Dear Mr. Gaither:

On behalf of Wilkes County Department of Solid Waste, Joyce Engineering, Inc (JEI) requests approval from the North Carolina Department of Environment and Natural Resources, Solid Waste Section (NCDENR SWS) to allow the County to operate a small glass crushing facility at the Wilkes County Roaring River MSW Landfill.

A description of the equipment and procedures is as follows:

Equipment

Andela GP05 Pulverizer with Infeed Conveyor (specifications are attached)

- processes 1 to 2 tons per hour;
- accepts all glass up to one gallon containers; and
- produces a sand and fine gravel (3/8" minus) non-sharp glass

Location

The Pulverizer will be located east of the white goods area. Unprocessed and processed glass will be stockpiled in 3 sided bunkers next to the equipment.

Glass Collection

Glass will be collected at the four convenience centers located throughout the county. The collected glass will be brought to the landfill where it will be stockpiled until there is a sufficient amount for processing.

Process and Safety Considerations

Unprocessed glass will be loaded into the hopper of the pulverizing unit with a front end loader. While flying glass debris is not expected, landfill staff will be protected by the front end loader enclosure. The hopper will feed the glass onto the conveyor and ultimately into the pulverizer. Landfill personnel will wear appropriate Personal Protection Equipment (PPE) when clearing glass debris from the area around the pulverizing machine.

End Use

Currently the County intends to use the glass gravel as aggregate fill inside of the landfill. Future uses include but are not limited to County use on greenways and sale to the public.

The County would like to begin using the aforementioned equipment as soon as the NCDENR SWS will allow. Please contact JEI or Wilkes County with any questions or concerns that you may have on this request.

Sincerely,



Kimberlee Benson, EI  
Project Consultant

Enclosure: Andela Model GP-05 Information Sheet and System Components  
Andela Model GP-05 Machine Specifications  
Andela Model GP-05 Drawings 05 and GP-05  
Markets for Glass

C: Kent Brandon  
Phil Greene



# Model GP-05

**Quiet**

**Simple**

**10 HP**

**Accepts all  
types of glass**

**Separates glass sand  
From larger debris.**

*Environmentally friendly*

*Reduces waste*

*Provides cost effective remedy*

*For environmentally conscious  
communities*

**ANDELA PRODUCTS, LTD.**

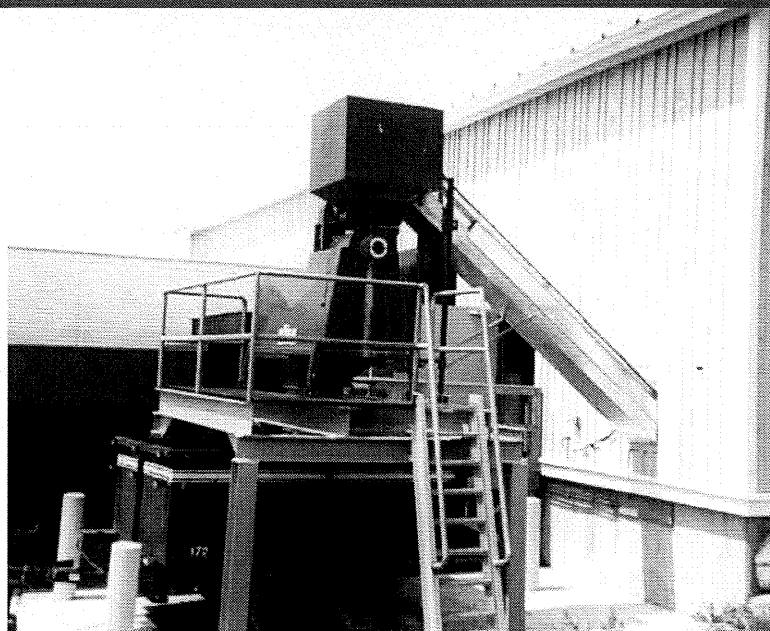
493 State Route 28  
Richfield Springs, NY 13439

Phone: (315) 858-0055

Fax: (315) 858-2669

Website: [www.andelaproducts.com](http://www.andelaproducts.com)

E-mail: [andela@recycle.net](mailto:andela@recycle.net)



The GP-05 can process 2,000 lbs/per hour or more and accepts all types of glass up to one gallon containers. You will get a sand and gravel mix out of this single barrel system. Installation is easy, place the unit and conveyor in position, attach the legs and bring electrical power to the control panel. The 4 cu. yard surge hopper continually meters and feeds glass onto the conveyor.

- Quiet Operation
- Simple to operate and maintain
- Easy Installation
- Reasonably priced
- Durable
- Big machine features with a small machine price
- Single frame construction



493 State Route 28 • Richfield Springs, NY 13439 • PHONE: (315) 858-0055 • FAX: (315) 858-2669  
website: [www.andelaproducts.com](http://www.andelaproducts.com) email: [info@andelaproducts.com](mailto:info@andelaproducts.com)

## **Andela Glass Pulverizer System Components**

### **Andela Metering Surge Hopper**

The Andela Metering Surge Hopper is designed to accept large quantities of glass to be metered out evenly onto the Andela Glass Pulverizer Infeed Conveyor. The Metering Surge Hopper is designed to be loaded with a front end loading vehicle or similar equipment. It prevents a large surge of material from overloading the conveyor and pulverizer.

### **Andela Glass Pulverizer**

The Andela Glass Pulverizer is designed to reduce all kinds of glass into an aggregate the consistency of sand and fine gravel (3/8" minus). The pulverized glass produced by the Andela Glass Pulverizer generally does not have any sharp edges and can be safely handled. The Andela Glass Pulverizer has a patented flexible impact system to produce this superior glass-sand product and is easy to access and maintain.

### **Andela Trommel Separator**

The Andela Trommel Separator is designed to separate and size the glass-aggregate and to sort out any material or trash that is larger than 3/8" in size. If material other than glass (plastic, metal caps, or covers) goes through the Andela Glass Pulverizer, it will keep its larger form and be easily separated from the glass-sand with the Trommel Separator. One or two screen sizes can be used to produce one aggregate mix (3/8" minus) or two different sized aggregates (1/8" minus and 1/8" to 3/8").

### **Conveyors**

The Pulverizer and Trommel Loading Conveyors are provided to safely convey the whole glass or cullet into the Andela Glass Pulverizer and the pulverized glass into the Andela Trommel Separator. For safety considerations, the Andela Glass Pulverizer should be loaded with a Pulverizer Infeed Conveyor.



493 State Route 28 • Richfield Springs, NY 13439 • PHONE: (315) 858-0055 • FAX: (315) 858-2669

website: [www.andelaproducts.com](http://www.andelaproducts.com)

email: [info@andelaproducts.com](mailto:info@andelaproducts.com)

**ANDELA GLASS PULVERIZER SYSTEM  
MODEL GP-05  
(1 +tons/hr)**

**MACHINE SPECIFICATIONS**

**Dimensions**

Overall Length ..... 7 ft – 5 in  
Overall Width ..... 5 ft – 8 in  
Overall Height ..... Adjustable

**Pulverizer**

Machine Input Opening..... 12.5" x 12.5"  
Barrel Diameter and Length..... 16" x 34"  
Barrel Liner ..... Abrasion Resistant Steel  
Motor Size ..... 7.5 hp  
Solid Steel Shaft Diameter ..... 2"  
Number of Hammers ..... 28  
Hammer Type..... Flailing Arm/Hardened Steel  
Bearing Size ..... 2" Heavy Duty  
Seal Protection..... 2 Seals At Each Shaft Bearing

**Trommel**

Screen Barrel Diameter and Length ..... 24 in x 3 ft  
Screen Type.....Stainless Steel Woven Wire  
Rotating Brushes ..... 7" diameter  
Motor Size .....1 hp

**Safety Features**

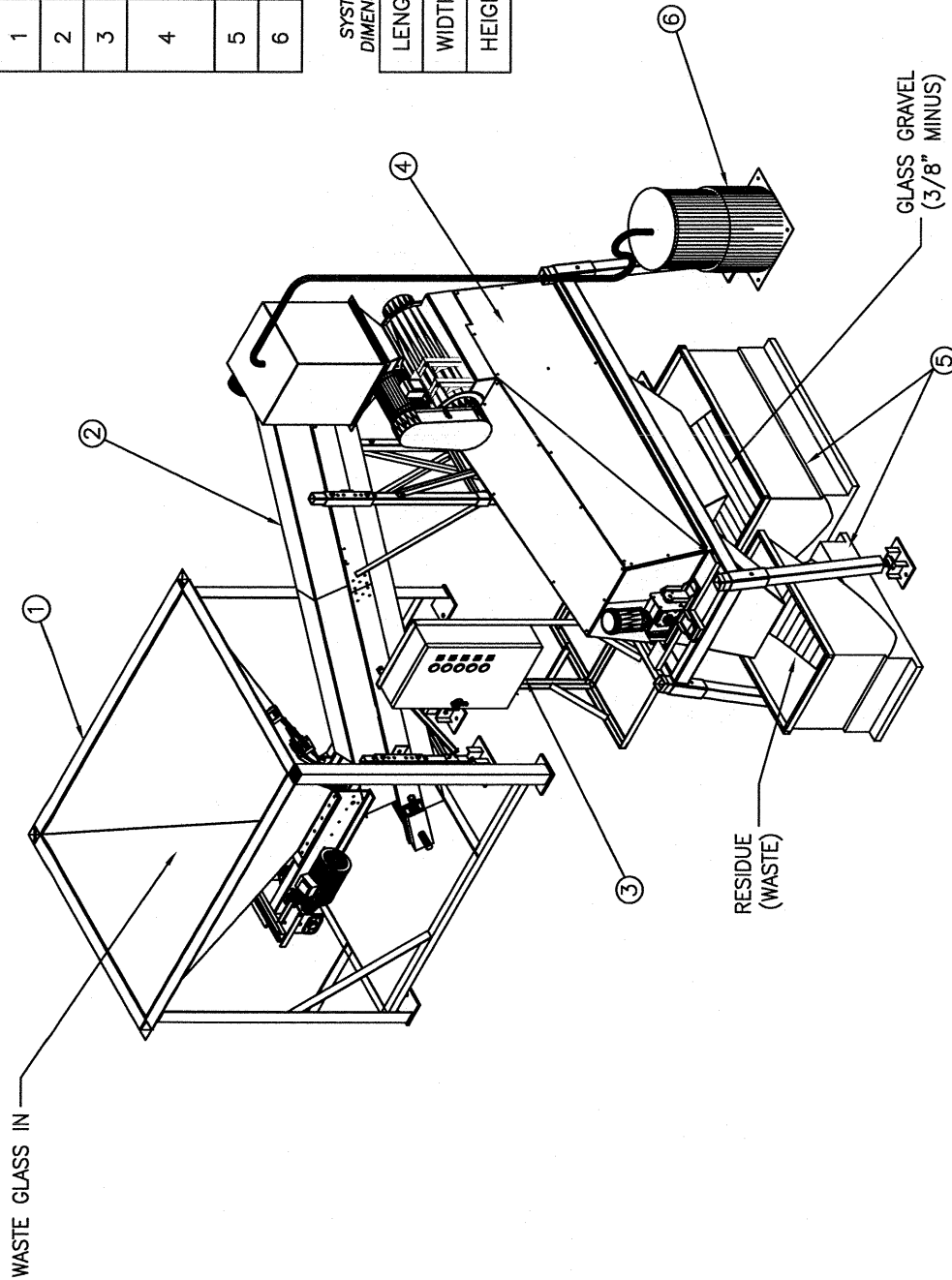
Protective Guards ..... Cover Input Hopper, Drive Unit and Bearings

**Electrical**

Motor Voltage .....230/460 VAC, 60 HZ, 3 phase  
Controls ..... Push Button Start/Stop  
Shipping Weight.....1900 Lbs.

The manufacturer reserves the right to change designs  
and specifications without notice.


11-21-03



ITEM	DESCRIPTION	MOTOR HP
1	SURGE HOPPER	1.5
2	CONVEYOR	2
3	ELECTRICAL ENCLOSURE	NA
4	GP-05 PULVERIZER/ TROMMEL	7.5
5	SELF DUMPING HOPPER	1
6	MISTING SYSTEM	NA
		1/15

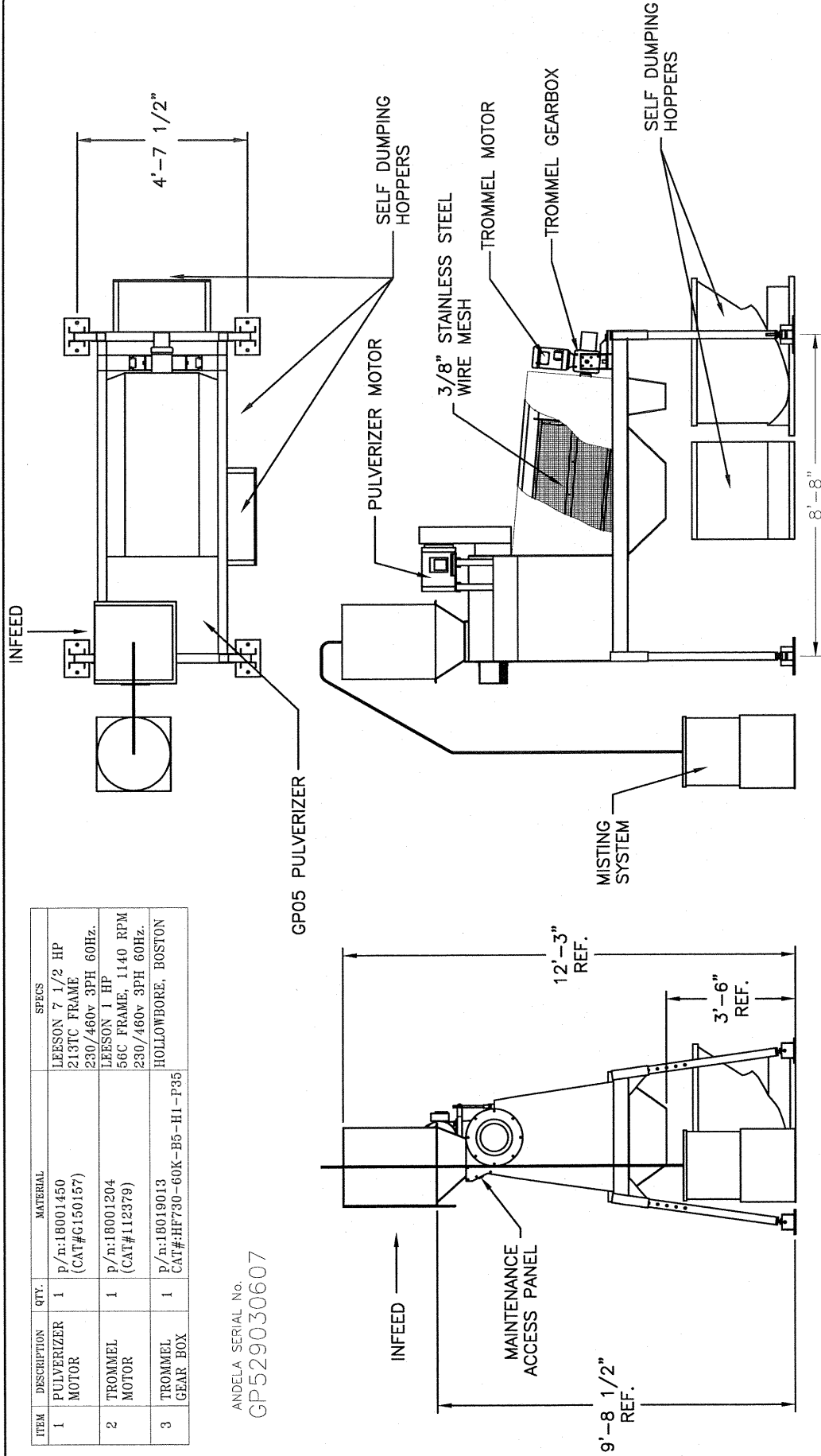
SYSTEM FOOT PRINT DIMENSION OVERALL	
LENGTH	24'
WIDTH	14'
HEIGHT	12'

SYSTEM CAPACITY  
1-2 TONS PER HOUR

	493 State Route 28 Richfield Springs, NY 13439 tel: 315-858-0055 fax: 315-858-2669	DRAWN BY B. NESTLE SCALE NTS	ANDELA PULVERIZER SYSTEM	GP-05 SYSTEM	FILE NO 05
---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------	---------------------------------------	--------------------------	--------------	---------------

ITEM	DESCRIPTION	QTY.	MATERIAL	SPECS
1	PULVERIZER MOTOR	1	p/n:18001450 (CAT#G150157)	LEESON 7 1/2 HP 213TC FRAME 230/460v 3PH 60Hz.
2	TROMMEL MOTOR	1	p/n:18001204 (CAT#112379)	LEESON 1 HP 56C FRAME, 1140 RPM 230/460v 3PH 60Hz.
3	TROMMEL GEAR BOX	1	p/n:18019013 CAT#HF730-60K-B5-H1-P35	HOLLOWBORE, BOSTON

ANDELA SERIAL No.  
GP529030607



493 State Route 28  
Richfield Springs, NY 13439  
tel: 315-858-0055  
fax: 315-858-2669

APPROVED	DATE
07/19/07	07/19/07
BY	DATE
07/19/07	07/19/07
SCALE	1:50

ANDELA DRAWING  
GP05

2008

REVISION	DATE
FILE NO	GP-05
	1 OF 1 SHEETS



493 State Route 28 • Richfield Springs, NY 13439 • PHONE: (315) 858-0055 • FAX: (315) 858-2669

website: [www.andelaproducts.com](http://www.andelaproducts.com)

email: [info@andelaproducts.com](mailto:info@andelaproducts.com)

## **Markets for Andela Glass**

### **Glassphalt - Paving Applications**

Aggregate Base Course, Asphalt Base Course-Glassphalt, Asphalt Surface Course-Glassphalt, Parking Lots and Driveways,

### **Aggregate**

Backfill/Clean Fill, Beach Sand, Embankments, Hydroponics, Landfill Cover, Oil Spill Cleanup, Road Sand, Solar Heat Storage, Termite Barrier, Utility Bedding and Backfill, Weighted Bags-Construction, Golf Course Sand Traps

### **Filtration**

Swimming Pool Filter Sand, Wastewater Filter Medium, Filter Sand for Septic Tank Systems

### **Drainage**

Choker Grit, Drain Pipe Bedding, Backfill, Drainage Aggregate, Septic Fields, Underdrains, French Drains, Golf Course Green Drainage

### **Abrasives**

Sandblasting, Sandpaper

### **Glass Products**

Art Glass, Decorative Marbles, Ecoglass, Fiberglass Manufacturing, Flat Glass, Foamglass, Glass Beads, Bottle Manufacturing, Hand Rolled Flat Glass, Industrial Marbles, Jewelry, Opacified Flat Glass, Pressed Glass, Sintered Mosaic Tile, Waste Vitrification

### **Other Glass Composite Products**

Aqueduct Liner, Brick/Steel Fluxing Agent, Composite (Plastic-Glass) Wall Panels Flue Gas Sorbent, Glass-Mica Composite, Glass-Polymer-Composite(GPC) Sewer Pipe, Glass/Sludge Tile, Glasscrete, Glasscrete Architectural Surfacing, Industrial Flooring, Plastics Filler, Rockwool Manufacturing, Roof Tiles, Terrazzo, Vibratory-Cast Wall Panels